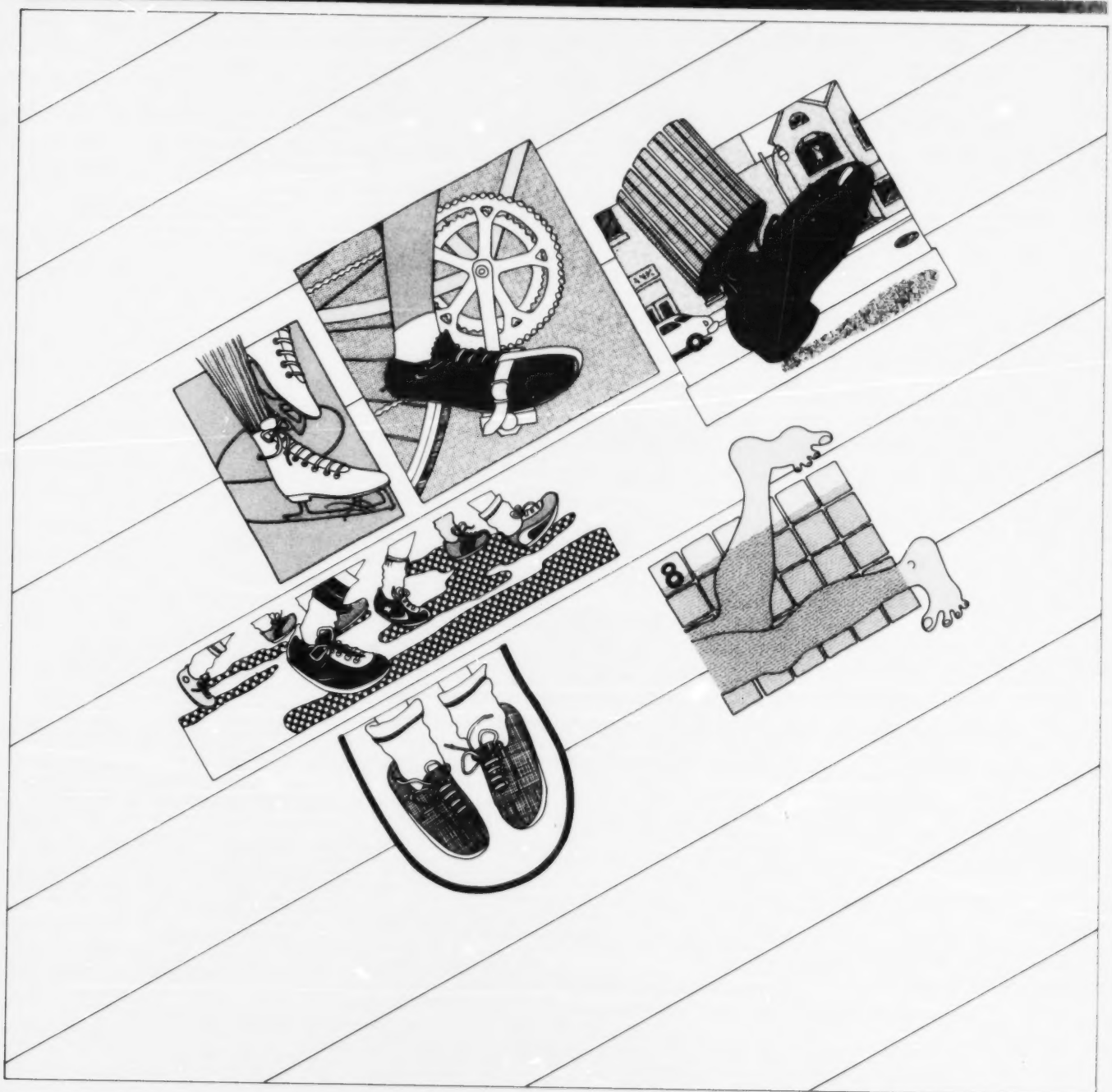
Sports and Fitness

Physical Activity Patterns in Ontario III

A Research Report from the Ministry of Tourism and Recreation



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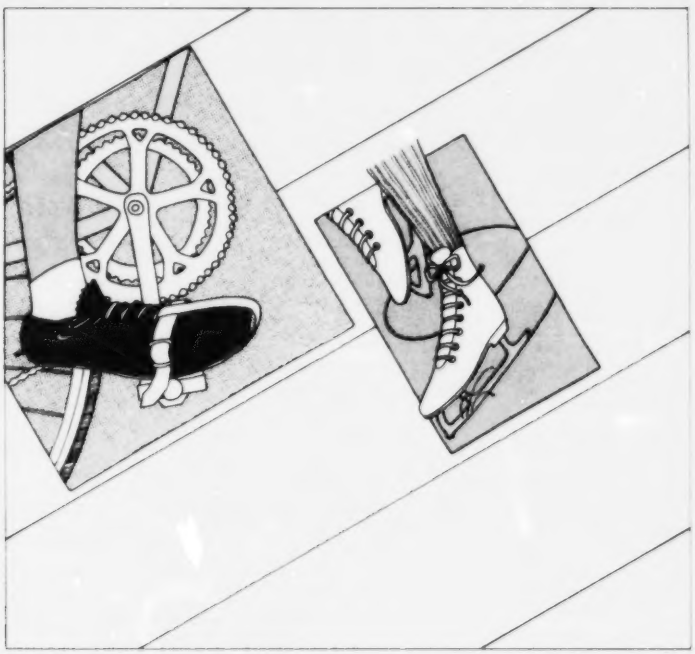
PHYSICAL ACTIVITY PATTERNS IN ONTARIO - III



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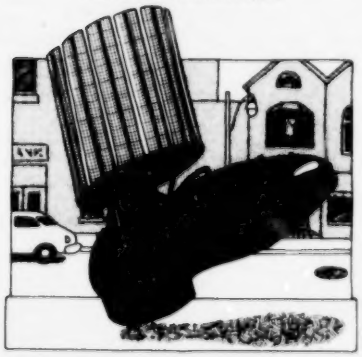
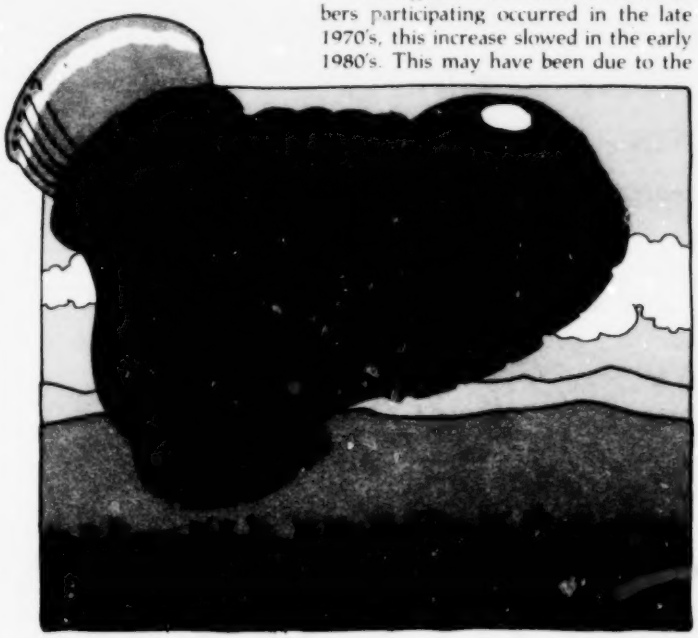


OVERVIEW: FINDINGS AND IMPLICATIONS

Participation in physical activity is increasing, but more must be done to encourage those not regularly active.

Fitness and interest in physical activity are no longer considered fads by Ontario's adults. At least half are engaged in some form of regular exercise or activity—many of them three or more times a week year-round.

While gradual increases in the numbers participating occurred in the late 1970's, this increase slowed in the early 1980's. This may have been due to the poor economic conditions—people worked harder and longer and had less disposable income for recreation and fitness.



As the economy improves, the already large demand for fitness services and facilities will pick up. Recent participation data supports this. However, a bigger push may be required from those in the fitness business to reach those adults in Ontario still not active.

Despite an aging population, participation in fitness may increase as more and more older people experience the benefits of participation.

The challenge

- ☐ encourage more people to become active
- ☐ encourage those active once or twice a week to become active three or more times a week.
- ☐ encourage people active in the summer to continue to be active year-round.
- ☐ encourage people to adopt activities requiring a higher expenditure of energy.

The target

- ☐ All capable adults will exercise for at least 30 minutes three times a week.

OVERVIEW:
FINDINGS AND IMPLICATIONS

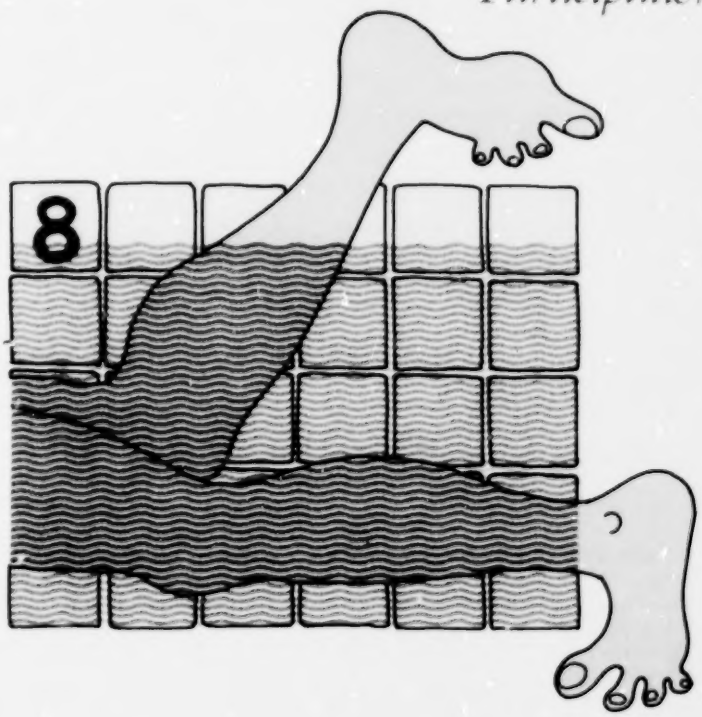
PARTICIPATION & FREQUENCY OF ACTIVITY

PAGES 12 - 13

65% of Ontario's adults were active at least once a week in June 1984.

- This means that about 4.2 million adults were active.
- Many (44%) were active three or more times a week.
- This is an increase of 12% since June 1979.
- After a peak in 1981 and a period of no increase, the percentage participating appears to be increasing again, especially in the late spring survey period.

Participation drops in the late Fall...



- By mid November 1984, only half of Ontario's adults were active at least once a week.
- The drop is due mainly to fewer people active three or more times a week.

...and has been decreasing since 1981.

- 10% fewer people were active three or more times a week in the fall of 1984 compared to the fall of 1981.

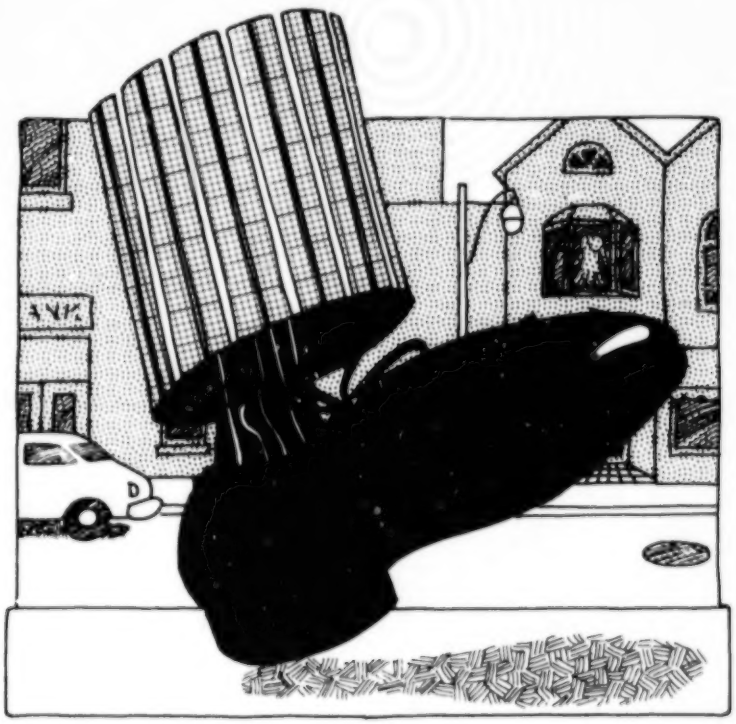
Many of Ontario's adults are active and committed—particularly in the spring. It appears that some cease physical activity in the fall and are thus only active for part of the year. They don't switch from fair weather activities such as jogging or tennis to cross-country skiing or indoor activities.

Fitness professionals should provide opportunities for people to be more frequently active and create opportunities for them to change from summer activities to fall/winter ones.

OVERVIEW: FINDINGS AND IMPLICATIONS

TYPES OF ACTIVITY

PAGES 14 - 15



Walking is the most popular form of exercise.

☐ 26% of Ontario's adults reported walking as one of their physical activities in June 1984; 22% walked in November 1984.

Late Spring activities

☐ Other popular activities in the spring are:

- ☐ swimming,
- ☐ bicycling,
- ☐ calisthenics,
- ☐ jogging/running,
- ☐ baseball,
- ☐ golf, and
- ☐ tennis

Late Fall activities

☐ Popular fall activities, in addition to walking, are:

- ☐ calisthenics,
- ☐ bicycling,
- ☐ swimming,
- ☐ jogging/running, and
- ☐ skating/hockey.

Little change over the years

☐ The relative popularity of each activity has remained basically the same over the last few years.

Many activities, particularly those like jogging/running or bicycling which require no specific facility, are entirely dependent on good weather. As winter approaches people who rely on these activities find it increasingly difficult to participate. If they don't have an alternative, their participation in physical activity is drastically reduced.

Those promoting fitness and physical activity must be aware of these seasonal patterns and provide opportunities for people to remain active on a year round basis.

PAGES 16 - 17

DEGREE OF ACTIVITY

Only a quarter of Ontario's adults expend high levels of energy and are active to a high degree.

☐ In the late spring (June 1984), 27% of Ontario's adults expend "high" levels of energy. This is less than half of those who are active at least once a week.

...and this drops in the Fall.

☐ By late fall (November 1984), only 15% expend "high" levels of energy.

While many adults are frequently active, not all of them are getting a physiological benefit from their activity. While walking might be highly recommended for many older adults, it could only be seen as a supplement for more vigorous activity for younger adults. Being active three times a week is only part of the story. People must get a good work-out to receive a benefit.

Fitness professionals must encourage people to expend higher levels of energy in more intensive activities.

OVERVIEW: FINDINGS AND IMPLICATIONS

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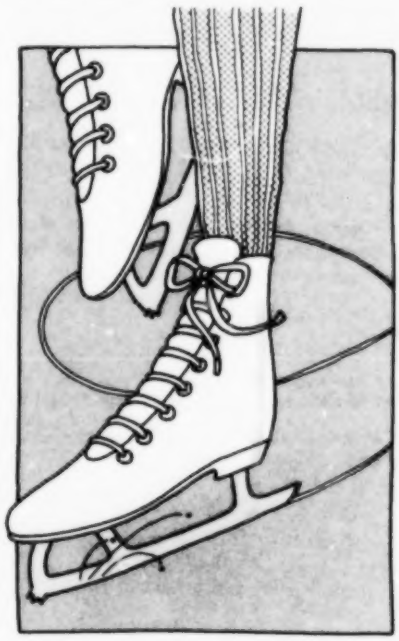
PARTICIPATION DIFFERENCES FOR MEN & WOMEN



Just as many women are active as are men...

☐ Over the entire survey period, about as many women are active once a week or more as are men.

...and recent trends show that women are more frequently active...

☐ In June 1984, more women (48%) were active three or more times a week than were men (41%). In November 1984, the difference was 30% versus 26%.

...but fewer women expend high levels of energy.

☐ About 30% of men expend HIGH levels of energy in the late spring, while only about 25% of women do so. In the fall the difference is greater—25% of men and 15% of women.

There are differences in types of activities as well.

☐ More women walk (30%) than do men (20%) who tend to jog or run, and more women do calisthenics (20%) than do men (7%).

While as many women are active as are men, women do not seem to be involved in as many high energy activities. Encouraging women who walk, to jog, run, or engage in some other more intensive activity is what is required.

OVERVIEW:
FINDINGS AND IMPLICATIONS
DIFFERENCES DUE TO AGE

PAGES 20 - 21

As expected more younger adults are active than are older adults...

☐ About three quarters (75%) of adults 18-29 are active once a week or more in the spring (65% in the fall).

☐ About 55% of older adults are this active in the spring and about 45% of this group are as active in the fall.

...they exercise more strenuously

☐ Close to 40% of younger adults expend "high" degrees of energy

...and tend to participate in higher energy activities.

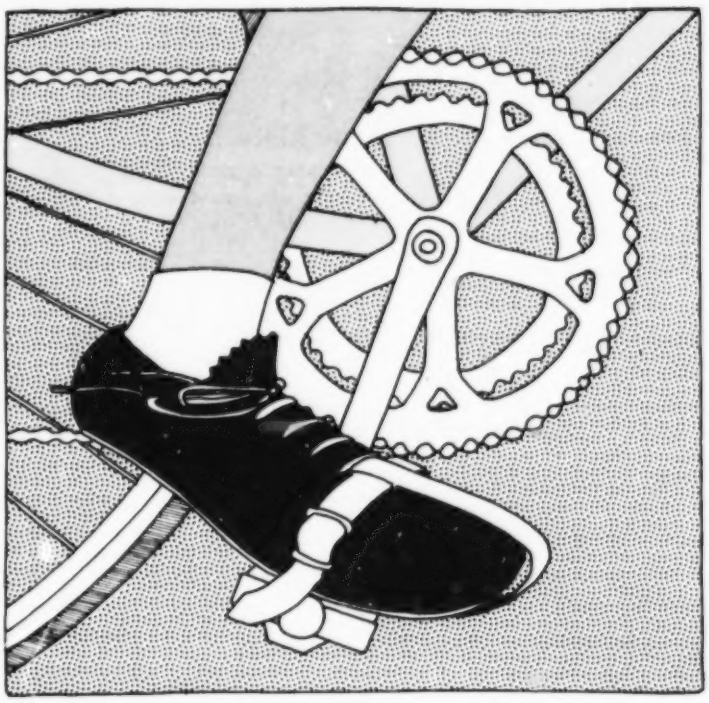
☐ More younger people jog or run

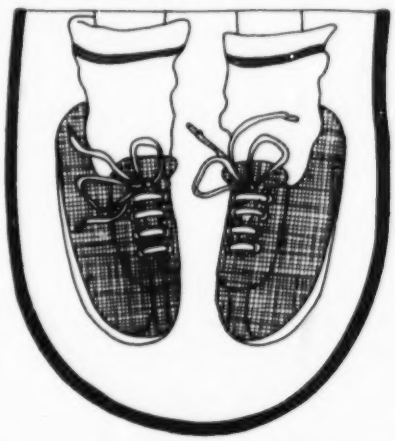
Many older adults, however, are quite active.

☐ On the average, about half Ontario's older adults are active at least once a week or more

☐ More older adults tend to walk than run or jog.

While programs, services and exercise opportunities are needed for people of all ages, there is a greater need to encourage older adults to participate regularly.

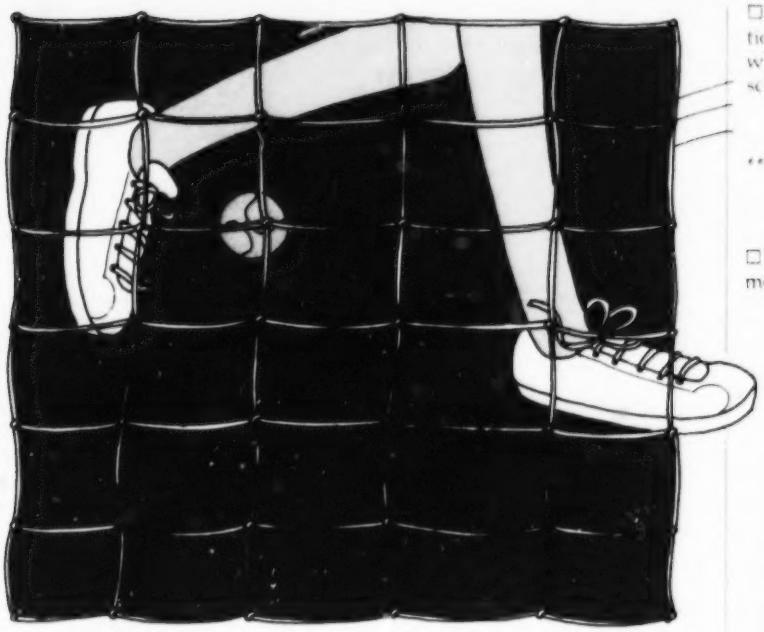




OVERVIEW: FINDINGS AND IMPLICATIONS SOCIO-ECONOMIC CHARACTERISTICS

PAGES 22 - 23

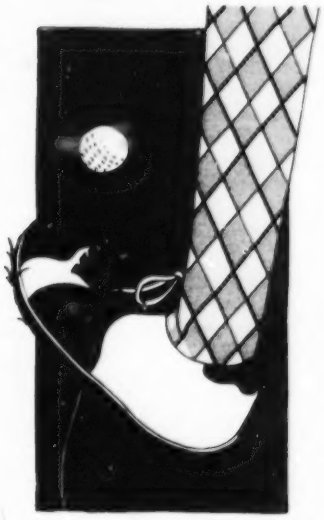
Those who participate in physical activity tend to... have reached a higher level of education



☐ 77% of those with a university education participated in November 1984, while only 38% of those with a public school education participated.

...earn higher incomes...

☐ Over 80% of those earning $30,000 or more participate.



...and are employed in professional/ executive or sales/ clerical positions.

☐ About 75% of people in these occupations participated in June 1984.

These three factors are related to a large extent. People with university educations tend to be employed in higher salaried professional, executive, sales or clerical positions. They are better able to afford both the time and expense of activities such as tennis, squash or skiing (where equipment costs or fees can be considerable.)

Fitness and municipal recreation professionals must be aware of economic barriers to participation. Low or no cost opportunities should be available in all communities.

OVERVIEW:
FINDINGS AND IMPLICATIONS

WHERE PEOPLE PARTICIPATE

PAGES 24 - 25

(Data collected in November 1982)

Many participate outside, using no special facility.

☐ 35% participate in activities "outside using no special facility."

☐ 23% use public, non-profit recreation facilities.

Where people participate, to a large extent, depends on the type of activity.

☐ 20% use commercial facilities or private clubs.

REGIONAL AND COMMUNITY SIZE DIFFERENCES

PAGES 26 - 27

No large regional differences.

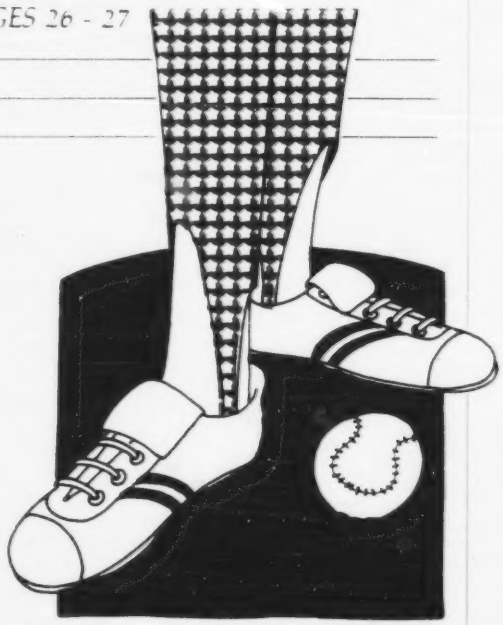
☐ No significant regional differences were detected in these surveys—but then the regional sample sizes were small.

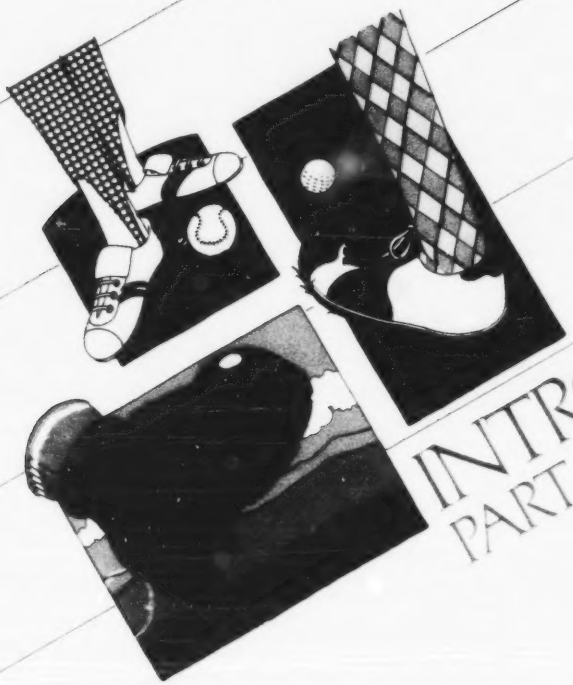
Fewer participate in rural areas

☐ Many more adults in large urban areas are active than are those in rural areas

...particularly in the Fall.

☐ The low levels of participation in rural areas are greatest in the fall.





INTRODUCTION
PART TWO

In the 1970's, many people became more aware of their need for physical activity. Some wished to deal with the stresses of modern living; others wanted to feel more alive physically and mentally. Across Canada, people became more committed to a healthier way of life.

This trend has continued into the 1980's. Interest and participation in physical activity and fitness are widespread throughout Ontario. More and more adults are adopting an increasingly active lifestyle.

While there has been much discussion and interest in this increased awareness and participation, until recently there has been relatively little sound information on who is participating, why and how they participate, the kinds of activities they participate in and changes in these factors over time.

Since 1978, Sports and Fitness Ontario has monitored the physical activity patterns of Ontario's adults. Over the past six and a half years, thirteen surveys have been conducted. Twice a year, in the spring and fall, over 1,000 adults 18 years and over have been asked in personal interviews:

- ☐ What activities did you participate in during the previous month?
- ☐ How many times did you engage in these activities?
- ☐ For how long, each time, on the average? and,
- ☐ How intensively did you participate? (e.g. a vigorous walk versus a leisurely one)

The surveys have been based on a uniform methodology and database to produce scientifically consistent and comparable results (see Appendix I for the sample characteristics and questionnaire format). By using identical methodologies—the same questions, sample size, survey procedures, etc.,—meaningful comparisons can be made for effective planning. This method of research also means that isolated "fluctuations" in trends can be accounted for.

While results from each of the 13 surveys have provided useful information in themselves, the major value of this monitoring process is the accumulation of an historical database on physical activity patterns—data unique in Canada. This information has been used by Sports and Fitness Ontario and those interested in promoting physical activity and fitness across the province to develop policies and strategies to encourage higher levels of physical activity.

This report is a continuation of an effort to provide highlights of this information to community fitness agencies, and others engaged in fitness planning and promotion. It summarizes survey findings on trends identified up to and including November 1984. It supersedes "Physical Activity Patterns in Ontario—II" which covered surveys carried out between 1978 and 1981.

Cautionary Note

The data collected in these surveys, while of the highest quality possible, must still be treated with a degree of caution. The picture portrayed is a provincial profile of activity patterns in Ontario and is accurate at this general level of description.

Figures are only accurate within a certain range due to sampling error. For example, figures regarding the Ontario population, based on a sample of approximately 1000 are accurate within a range of about 3 1/2%. Small differences of up to 5% between figures based on two samples of 500 people are probably not statistically significant. Similarly, differences of less than 10% between two groups of size 200 are not significant.

Definition of Terms

Participants: those who have participated in a physical activity at least once in the previous month (i.e. 1 time per month or more)

Non-Participants: those who have not participated at all during the previous month

Actives: those who have participated at least once a week within the previous month (once a week or more)

High Actives: those participating three or more times a week

PARTICIPATION & FREQUENCY OF ACTIVITY

Participation in physical activity and fitness has increased gradually over the last several years.

In the late 1970s and early 1980s, more of Ontario's adults became active and many were active more frequently. This increase reached its peak in mid 1981. Since then, there has been a levelling off in participation—possibly a result of the economic recession of the early 1980s.

In June 1984, 65% of Ontario's adults (4.2 million people) were **active** once a week or more—an all-time high for participation (see extreme right side of Chart 1). Most of these people (44%) were active three or more times a week—the minimum frequency recommended by Sports and Fitness Ontario.

However, only 50% of Ontario's adults were active in the fall—a drop of 15% since June. An extremely cold period in early November 1984 may have had some effect.

Chart 2 shows the trends in frequency of activity over the last six and a half years graphically. It shows the percentage of Ontario's adults who were active once a week or more over the period 1978—1984.

Participation increased in the late 1970's peaking in June 1981. Then there was a steady-state period from late 1981 to early 1983. Finally, participation, at least in the Spring, appears to be increasing again.

A closer examination shows that participation is increasing in June while it has been decreasing in November since 1982. The percentage of adults who are active the recommended amount—3 times a week—has remained at about 45% in the June period over the last four years. With present levels and strategies of promotion, this figure will probably stay the same for the foreseeable future. The challenge to fitness professionals is to increase this percentage. They must assess the effort it will take to get more of Ontario's adults active the recommended amount.

Seasonal Patterns

Chart 3, shows the seasonal patterns for the June and November surveys. The seasonal differences in the percentage of the population active (at least once a week) appear to be due, to a large extent, to a dramatic decrease in the number of adults active three or more times a week in November. Almost 10% fewer adults are highly active in November 1984 (28%) compared to 37% of Ontario's adults who were active this frequently in November 1980. Many people are very active during late May to early October. Relatively fewer are participating in the late fall and winter.

People seem to reduce their frequency of activity from June to November and/or change to activities in which they are active less frequently. For example, a 27 year old man might play baseball three times a week in the summer, and shift to playing hockey only once a week in the fall/winter. However, the substantial drop from June to November seen over the last few years indicates that many people are stopping summer activities and not starting new fall/winter ones.

Recent data from three winter surveys (conducted in mid-February) substantiates this. The number of people participating in February is quite similar to that observed in November.

Findings

☐ 65% of Ontario's adults (an estimated 4.2 million people) were **active** once a week or more in June 1984—44% (2.8 million) were **active** three times a week or more.

☐ Only 50% (about 3.3 million people) were **active** once a week or more in November 1984. Poor weather may have had some effect.

☐ The percentage of adults **active** in the late spring, after having levelled off since the June 1981 peak, appears to be increasing.

☐ However, the number **active** in the fall, **has been decreasing** since 1981. This is due mainly to a decrease in the numbers active three or more times a week.

There is still a need to help people become active year-round, to help them through the transition months of October/November and to encourage them to participate in different winter activities.

CHART 1/FREQUENCY OF PARTICIPATION IN PHYSICAL ACTIVITY

Frequency of Activity	1978 Nov.	1979 Jun.	1979 Nov.	1980 Jun.	1980 Nov.	1981 Jun.	1981 Nov.	1982 Jun.	1982 Nov.	1983 Jun.	1983 Nov.	1984 Jun.	1984 Nov.
3 or more times a week	26%	32%	29%	39%	37%	45%	37%	44%	30%	44%	30%	44%	28%
1 or 2 times a week	23%	20%	21%	18%	20%	19%	19%	16%	23%	18%	22%	20%	22%
Total Active (Once a week or more)	49%	52%	50%	57%	57%	64%	56%	61%	53%	62%	52%	65%	50%
1 - 3 times a month	7%	6%	6%	6%	6%	6%	6%	4%	6%	5%	5%	5%	7%
Total Participants	56%	58%	56%	63%	63%	70%	62%	65%	58%	68%	57%	69%	57%
Non-Participants	44%	42%	44%	37%	37%	30%	38%	35%	42%	32%	43%	31%	43%

CHART 2/FREQUENCY OF ACTIVITY

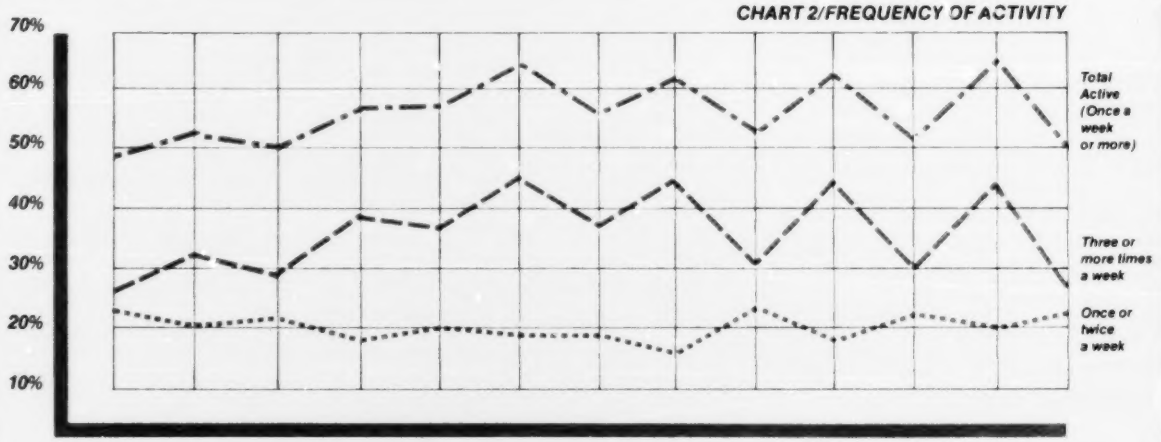
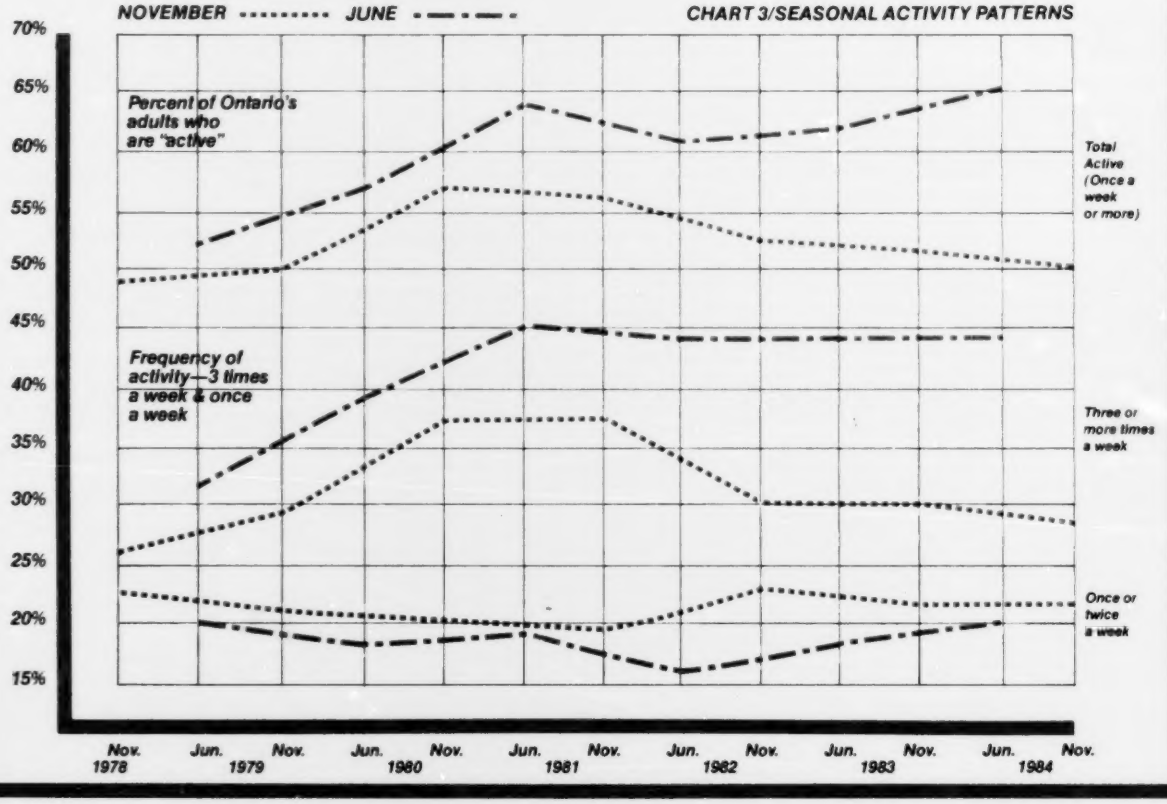


CHART 3/SEASONAL ACTIVITY PATTERNS

NOVEMBER ····· JUNE - — - —



TYPES OF ACTIVITY

Those interviewed were asked to mention up to three "types of physical activity, physical exercise or physical recreation [they] engaged in, if at all, within the last month". The most frequently mentioned activities in June and November 1984 are listed in Chart 4. These are expressed in terms of the percentage of all respondents in order to calculate population estimates. The activities are listed in a standard order to allow ease of comparison from year to year. It should be remembered that the interviews were conducted in late June and late November so that people were responding on what they did in the periods mid May to mid June and mid October to mid November. These are transition periods in people's activities. Some are stopping summer activities in October and as we have seen, fewer are adopting winter activities.

Walking is the most frequently mentioned activity. One quarter of Ontario's adults (26%) walked for physical exercise in June 1984. Almost as many (22%) did so in November 1984.

Swimming remains the next most popular activity in June 1984. Other popular activities in June 1984, are **bicycling, calisthenics,** and **jogging/running.**

Baseball is the highest ranking team sport.

Many people engage in more than one activity. For example, those who walk, might also swim or play tennis.

In the fall, **calisthenics, bicycling, swimming, jogging/running,** and **skating/hockey** were most popular in addition to **walking.** Of these **bicycling** is the most susceptible to weather conditions, and more people were cycling this fall than in previous years possibly because of the mild weather in mid to late October. The popularity of most activities is seasonal.

Charts 5a to 5d show seasonal patterns of participation for **walking, calis-**

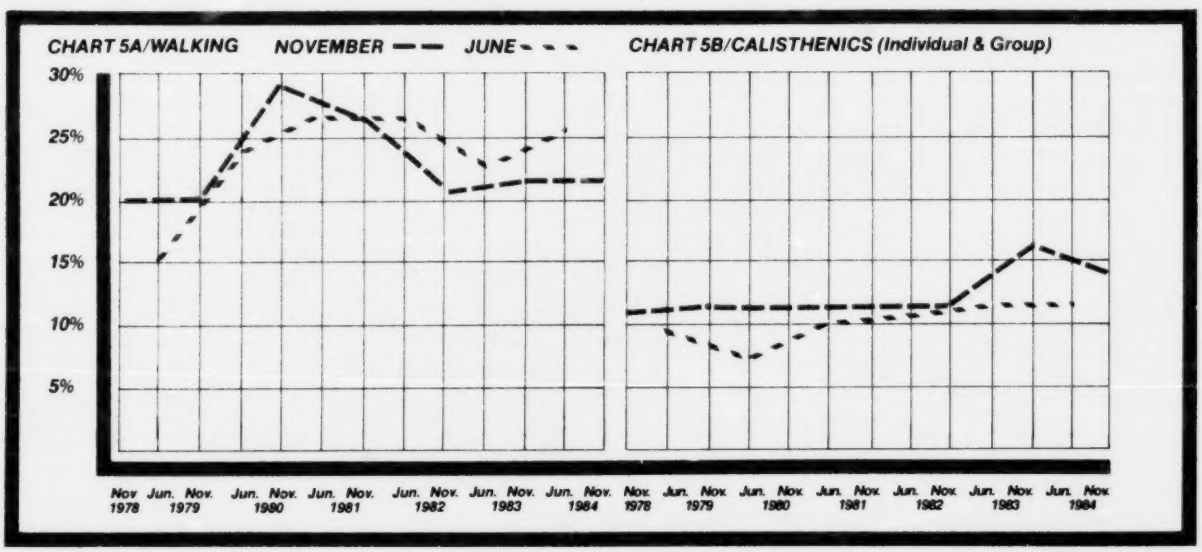


CHART 4/ACTIVITIES	JUNE 1984			NOVEMBER 1984		
Activity	% of ALL Responding	Rank	Population Estimate**	% of ALL Responding	Rank	Population Estimate**
Walking	26%	1	1,700,000	22%	1	1,450,000
Swimming	16%	2	1,030,000	6%	4*	399,000
Calisthenics (Indiv./Group)	12%	4	789,000	14%	2	895,000
Bicycling	15%	3	976,000	7%	3	466,000
Jogging/Running	8%	5	535,000	6%	4*	392,000
Skating/Hockey	2%		137,000	6%	4*	361,000
Tennis/Badminton	5%	8	342,000	2%		106,000
Golf	6%	7	398,000	2%		149,000
Squash/Racquetball	3%		186,000	3%	9	193,000
Weightlifting	4%	9	242,000	4%	7*	236,000
Gardening	6%		385,000	1%		55,900
Baseball	7%	6	429,000			24,800
Bowling	2%		112,000	4%	7*	261,000
Dancing	2%		99,400	2%		124,000
Basketball/Volleyball	2%		106,000	2%		118,000
Boating/Fishing	3%		211,000	1%		93,200
Football/Rugby	1%		74,500	1%		80,800
Soccer	1%		80,800	1%		37,300
Curling			0	1%		87,000
Yoga			12,400			18,600
Other	5%		298,000	3%		186,000

* Tied

** Estimate based on 1981 Statistics Canada Census, there were 6.5 million adults in Ontario.
NOTE: These figures are estimates and are accurate subject to a sampling error of ±3%.

thenics, swimming and jogging/running over the past six and a half years.

The number of people **walking** in June has increased, while the number walking in the fall appears to have decreased since the peak in November 1980.

As the weather gets colder, fewer people **swim,** and more engage in **calisthenics.** The number involved in calisthenics appears to be increasing slightly in both June and November.

In the late 1970's, about the same number of adults **jogged or ran** in June and November. However, in the past three years, fewer people are **jogging/running** in November.

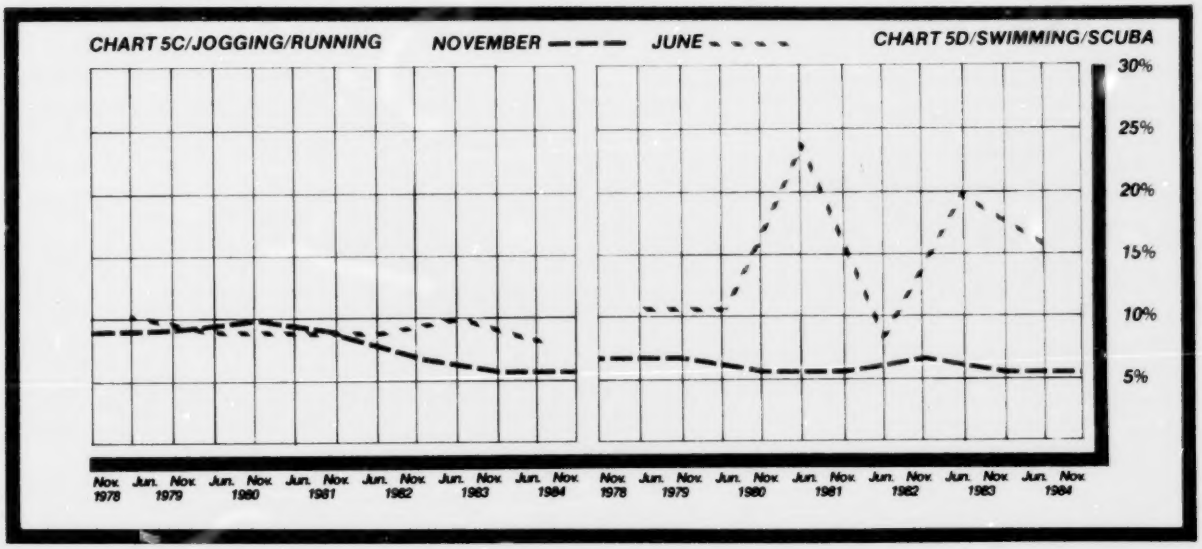
Findings

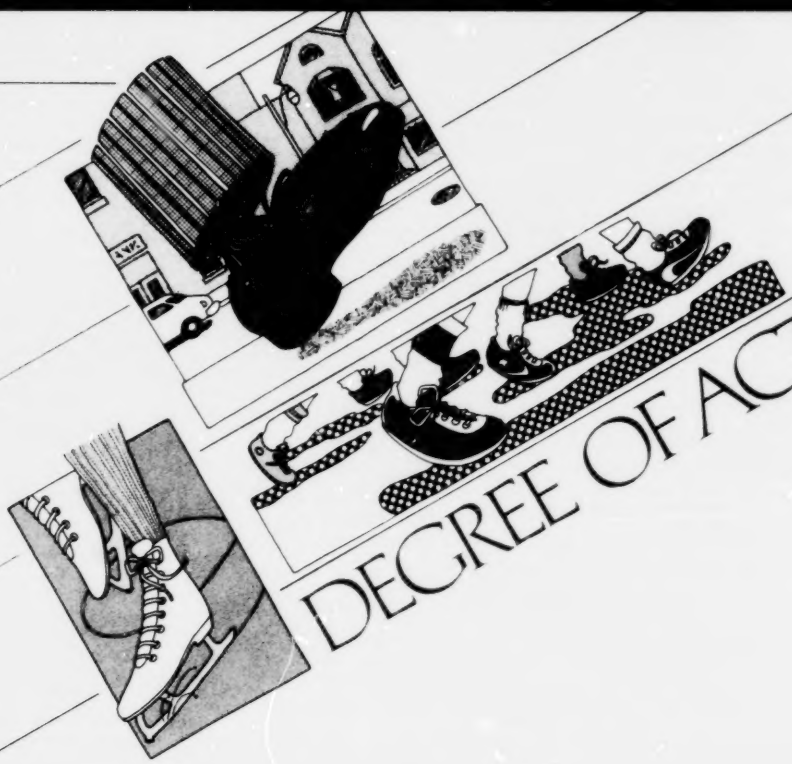
☐ The most popular activities in June 1984 were **walking, swimming, cycling, calisthenics, jogging/running, baseball, golf,** and **tennis.**

☐ In November 1984, the most popular activities were **walking, calisthenics, bicycling, swimming, jogging/running and skating/hockey.**

☐ The relative popularity of activities has remained basically the same over the last few years.

The most important thing fitness professionals can do is to encourage people to keep up with their year round activities, and to keep active by switching from summer activities to appropriate winter ones. For example, those who can't run or jog in the winter, might be encouraged to participate in calisthenics or group exercise classes two or three times a week in the winter.



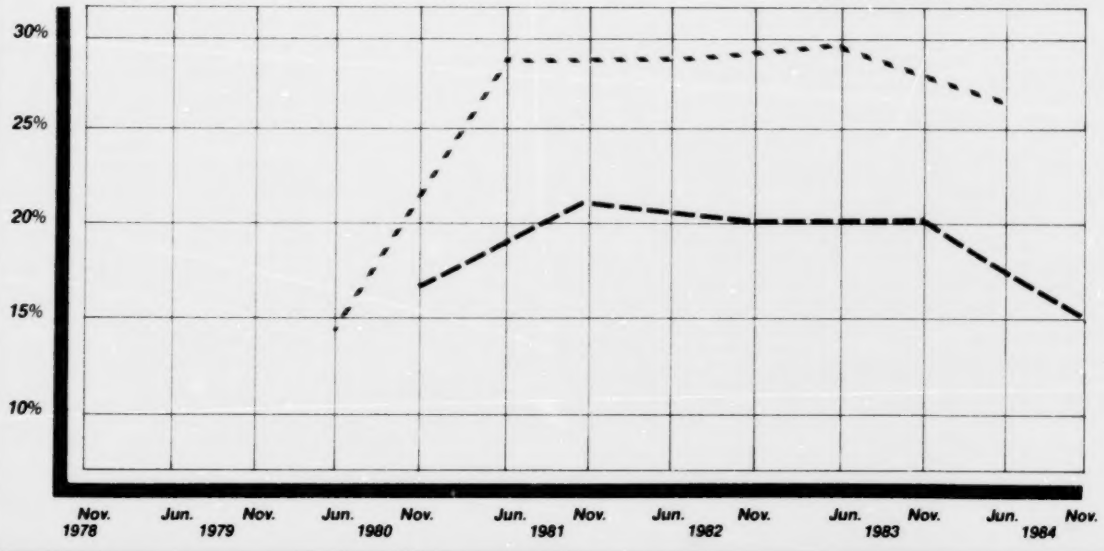


DEGREE OF ACTIVITY

CHART 6/DEGREE OF ACTIVITY

	Mets/Month	1980 Jun.	1980 Nov.	1981 Jun.	1981 Nov.	1982 Jun.	1982 Nov.	1983 Jun.	1983 Nov.	1984 Jun.	1984 Nov.
High	6500 & over	14%	17%	28%	22%	28%	20%	29%	20%	27%	15%
Medium	3000-6499	20%	18%	17%	18%	17%	16%	17%	15%	19%	16%
Low	1-2999	30%	28%	24%	21%	20%	21%	21%	21%	23%	25%
Non-participants	0	36%	37%	31%	39%	35%	43%	33%	44%	31%	44%
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

CHART 7/DEGREE OF ACTIVITY



The analyses so far have dealt with the number of participants and frequency of activity. They have not addressed the overall **quality** of activity. For example, considerably more energy is expended by a 40 minute vigorous run or hard game of squash than by a relaxed 40 minute walk.

To estimate the degree of activity in terms of energy expenditure, a physical activity index was devised to consider the following factors:

- ☐ type of activity;
- ☐ frequency of participation;
- ☐ average length of time for each exercise session;
- ☐ intensity of participation (e.g., vigorous vs. relaxed run)

One's degree of activity estimated in terms of amount of energy expended over all activities for a month, was categorized into one of four groupings: **"non-participants"**, **"low"**, **"medium"** and **"high"**. (Appendix II gives a more detailed description of the index, including examples of activities which would fall within each of the high, medium and low categories.)

The criterion used for the **"high active"** category (6500 Mets per month), while somewhat arbitrary, is consistent with the minimum amount of activity suggested by other research studies to provide protection against coronary heart disease. Other similar surveys also have used this criterion.

Chart 6 shows the most recent pattern of degree of activity for June and November 1984 as well as the data from the previous eight surveys. In June 1984, 27% of Ontario's adults expended **"high"** degrees of energy. An additional 19% were **"medium"** expenders while 23% expended a **"low"** amount. In November this pattern had changed. Only 15% were **"high"** expenders. The other figures were similar—16% were medium and 25% were low expenders. The major difference was that 44% were non-participants in November 1984 an increase from 31% in June of that year.

Chart 7 shows the percentage of high energy expenders for the June and November survey periods, for the past five years.

In June 1984, 27% of Ontario's adults expended a high degree of energy in their monthly activities. This is at the same level as the previous three June samplings. The percentage of adults in Ontario who expend high levels of energy in the late spring/early summer appears to have leveled off.

A different pattern exists in the late fall. In November 1984, only 15% of Ontario's adults were expending high levels of energy compared to the 27% in June—a 12% drop—and 20% in the previous November.

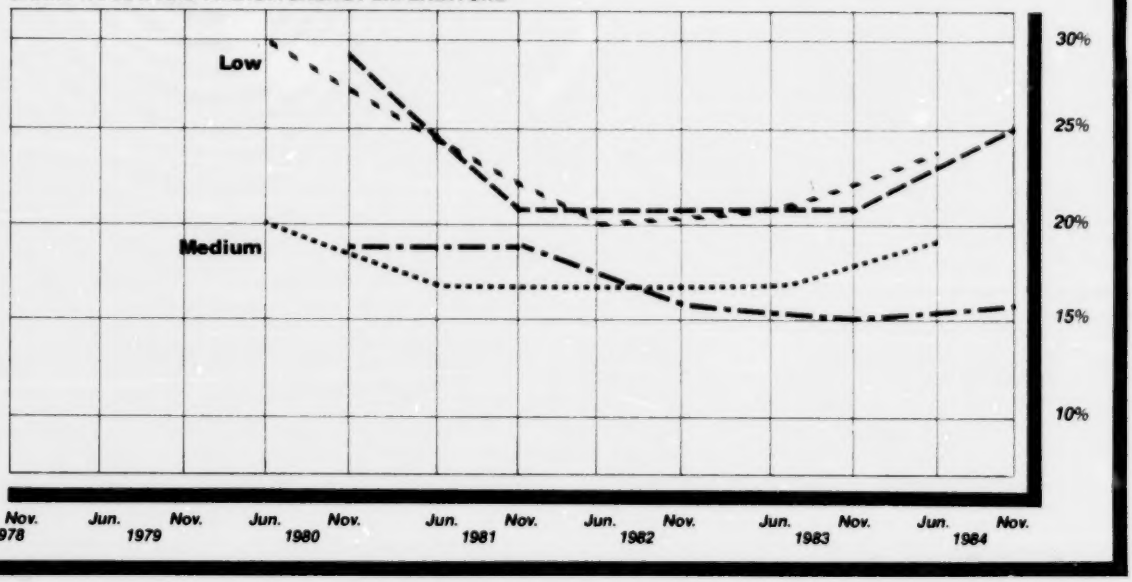
This decline in November is consistent with the decline in frequency of participation since, of course, frequency is one of the four variables used to develop the degree of activity measure.

While almost two thirds of Ontario's adults were active at least once a week in June 1984, only about one quarter (27%) expend a sufficiently high degree of energy to be considered to be receiving a benefit. A significantly large number of Ontario's adults are participating—at least in the spring/summer periods. The challenge for fitness professionals is to help these adults become active to a higher degree.

Findings

- ☐ 27% of Ontario's adults were active to a high degree in June 1984. This is about the same as has been observed in the past three spring samplings.
- ☐ Only 15% were active to a high degree in November 1984. The percentage of adults expending high degrees of energy in the fall is decreasing.

CHART 7A/LOW AND MEDIUM ENERGY EXPENDITURE



PARTICIPATION DIFFERENCES FOR MEN & WOMEN

Frequency of Activity

Preliminary findings in the period 1978-1980 suggested that more men were active once a week or more than women. However, recent data during the period 1981—1984 (see Chart 8) indicate that there is no difference in the **number** of men and women participating—particularly in the spring.

Data from the 1984 surveys show for the first time, substantial differences in the frequency of participation for women and men. In June 1984, while the same percentage of men and women were active, significantly more women were active three or more times a week (48%) than were men (41%) as seen in Chart 9.

A similar pattern was seen in November 1984, although the difference in frequency of activity between men and women was not as large.

Degree of Activity

Chart 10 shows the percentage of men and women expending **high** levels of energy for the last ten survey periods. In November 1984, 17% of men expended a high degree of energy, and 13% of women did so, compared to 27% and 17% in November 1981. The November decrease is much greater for men than it is for women.

The seasonal patterns for men and women in terms of energy expenditure are quite different. In the late spring (June), approximately 4% fewer women expend **high** levels of energy than do men. However, in the fall (November) with the exception of 1984, about 10% fewer women are **high** energy expenders.

CHART 9/FREQUENCY OF PARTICIPATION IN PHYSICAL ACTIVITY BY SEX

	June 1984		November 1984	
	Women	Men	Women	Men
Frequency of Activity				
3 or more times a week	48%	41%	30%	26%
1 or 2 times a week	17%	23%	20%	25%
% ACTIVE (Once a week or more)	65%	64%	50%	51%

CHART 11/MOST POPULAR ACTIVITIES BY SEX

Percent Participating at least once a month

Activity		Men	Women	Activity		Men	Women
Walking	Jun 84	21%	31%	Baseball	Jun 84	10%	3%
	Nov 84	17%	27%		Nov 84	1%	*
Swimming/ Scuba	Jun 84	15%	17%	Tennis	Jun 84	5%	5%
	Nov 84	4%	8%		Nov 84	2%	1%
Bicycling	Jun 84	13%	17%	Skating/ Hockey	Jun 84	4%	*
	Nov 84	7%	8%		Nov 84	10%	1%
Calisthenics	Jun 84	6%	17%	Bowling	Jun 84	1%	3%
	Nov 84	7%	20%		Nov 84	4%	4%
Jogging	Jun 84	10%	6%				
	Nov 84	9%	3%				

*less than half of one percent

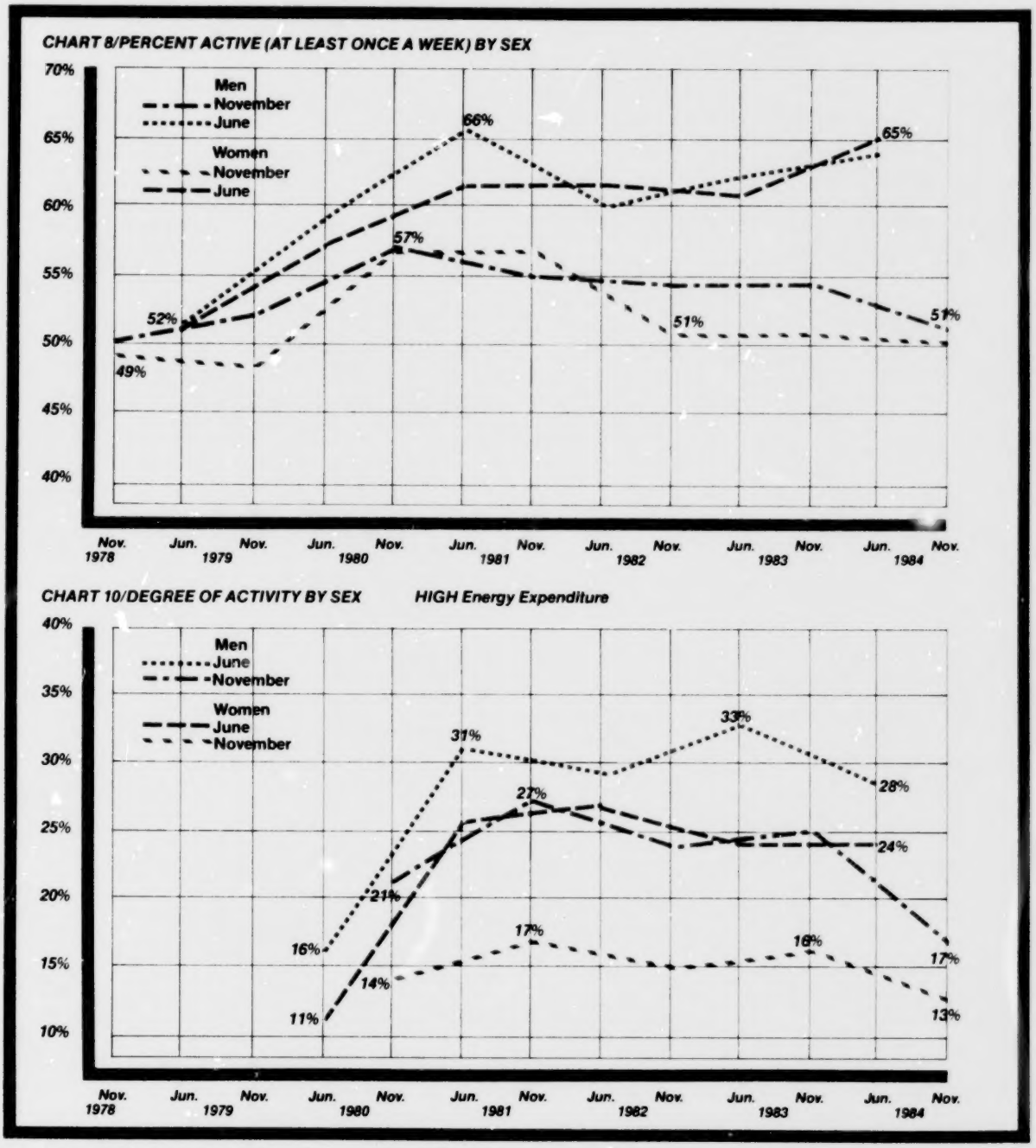
Types of Activities

Although there are many similarities between men and women in physical activity patterns, there are still significant differences in the type of activities pursued. For example, women are more inclined to walk, swim or take part in general exercise, whereas a greater number of men jog or run. In general, men tend to participate in somewhat more strenuous activities than women.

Chart 11 shows the seasonal activity differences for men and women.

In November 1984, 10% more women (27%) **walk** than do men (17%) and many more women engage in calisthenics (20%) than do men (7%). On the other hand, more men (9%) **jog or run** than do women (3%).

A comparison between the June and November 1983 data (not presented in chart 11) showed a seasonal pattern in activity differences between men and women. Many more women (24%) par-



ticipated in calisthenics in the fall than did so in the spring (14%). For men, it was almost identical (6-7%). This June-November difference was not as large in 1984 (17% vs 20%).

Findings

☐ Over the entire survey period, about as many women are **active** at least once a week as are men.

☐ However, in 1984 more women were active **three or more times a week**—particularly in June 1984. Whether or not this is a new and emerging trend, remains to be seen.

☐ Over the past five years, more men expend high levels of energy than do women. This is particularly the case in the fall when about 10% fewer women expend high levels of energy.

These findings present an interesting pattern. In 1984, more women were highly active (three times a week or more) than were men. However, men were active to a higher degree. This means that, in general:

☐ women are active more frequently, but expend less energy per month,—e.g. many women walk—while,

☐ men are less frequently active but expend more energy each time in higher metabolic activities—many men jog or run.

These findings make it clear that women and men prefer somewhat different activities and programs in exercising. The challenge is to encourage active women to increase the amount of intensity of their exercise so that in their activities they expend more energy. The role of the fitness professional should be to provide programs aimed at women which cater to their interests. Women should be encouraged to excercise at levels which will allow them to produce a higher level of fitness.

DIFFERENCES DUE TO AGE

Findings from these surveys confirm data from other sources which indicate that, in general, younger people are more active than older people. However, these differences are not as great as many may think. Substantial numbers of people at all ages are involved in some degree of physical activity.

For example, in June 1984, (See Chart 12), 76% of those aged 19-29 were active at least once a week. For those aged 30-49, 63% were as active. About half (55%) or older adults (65 and over) were this active compared to 43% of those in the 50-64 age bracket.

Over the survey period, close to half of those 65 years and over were active. The increase among older adults has been about 10% since 1978 and peaked in 1980-1981 when about half of all older adults were active at least once a week. This should dispel any notion that older people participate only infrequently, or are not interested in physical activity.

In November 1984, all age groups showed decreases in frequency of activity with the exception of those 65 years and over. It must be remembered that there is a high degree of variability in these data broken down by age because of the reduced sample size for each age category.

The **type of activities** engaged in also varies somewhat according to age. Chart 13 indicates specific activities engaged in by each age group for June and November, 1984.

As this chart shows, older people are less likely to engage in strenuous activities. They are likely to opt for walking, for example, rather than jogging. In fact, 37% of older adults walked in June 1984.

The number of people who walk, in both June and November, 1984 increases with age. And, as might be expected, the number who jog decreases with age.

The **degree of activity** in terms of energy expenditure engaged in by the various age groups is illustrated in Chart 14 for the two most recent surveys. As expected, younger people (18-29) have the highest degree of activity in June, with 38% expending a high level of energy. The percentage of adults active to a **high** degree decreases with age. In addition, the percentage of each age group who are active to a **high** degree drops dramatically in the fall. Only 19% of those 18-29 are this active in November 1984.

Findings

☐ More young adults are **active** than are older adults

☐ Still, 50% of those 65 years and over were active in June 1984 and 42% of these older adults were active in November 1984.

☐ Older adults are less likely to engage in strenuous activities.

☐ More younger people expend **high** degrees of energy than older adults.

These findings indicate that, while fewer older people are active, compared to younger adults, interest and participation are increasing among people in the older age groups.

This suggests that programs, activities, and exercise opportunities will be needed for people of all ages. Programs should not concentrate on just the younger adults.

CHART 13/PARTICIPATION IN ACTIVITIES BY AGE

Per cent of respondents participating at least once a month (ranking)

	June 1984					November 1984				
		Age					Age			
Activity	**Total**	**18-29**	**30-49**	**50-64**	**65+**	**Total**	**18-29**	**30-49**	**50-64**	**65+**
Walking	26%	18	26	31	37	22	16	21	26	31
Calisthenics (indiv. & group)	12	15	13	10	7	14	18	15	11	6
Jogging	8	16	9	1	*	6	10	6	4	1
Skating/Hockey	2	4	2	1	*	6	10	6	2	*
Swimming/Scuba	16	24	17	11	2	6	6	8	5	4
Bicycling	15	22	18	9	*	7	9	7	7	6
Bowling	1	1	1	3	4	4	3	5	4	7
Gardening	6	1	5	12	11	1	0	1	*	5

*Less than half of one per cent

CHART 12/PERCENT ACTIVE (at least once a week) BY AGE GROUP

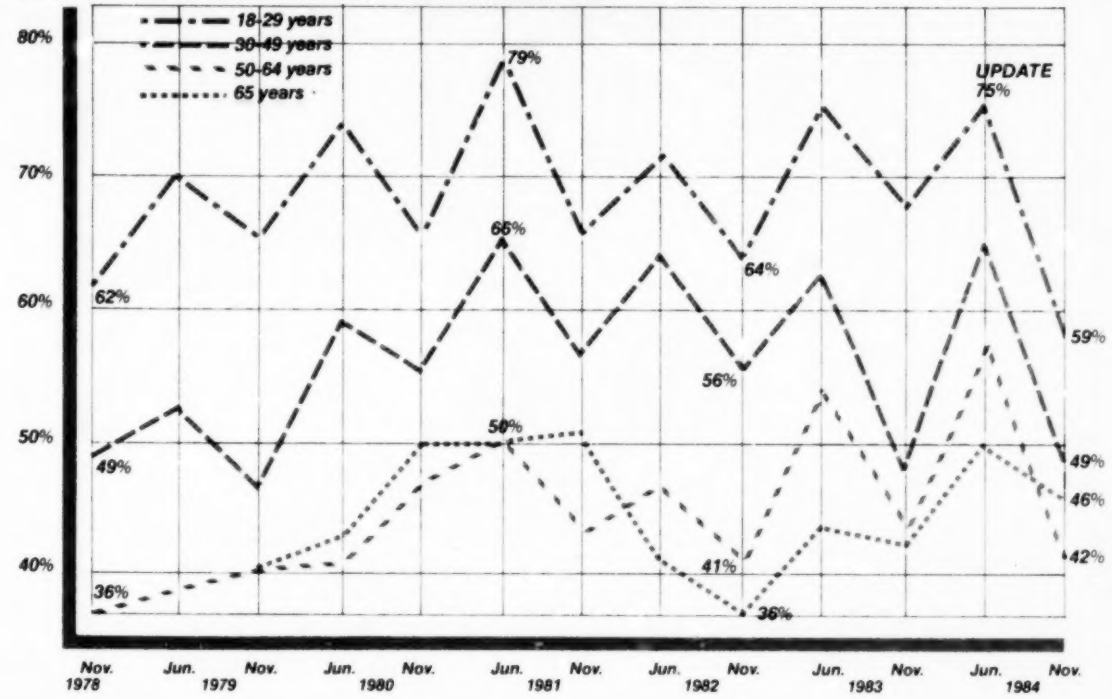
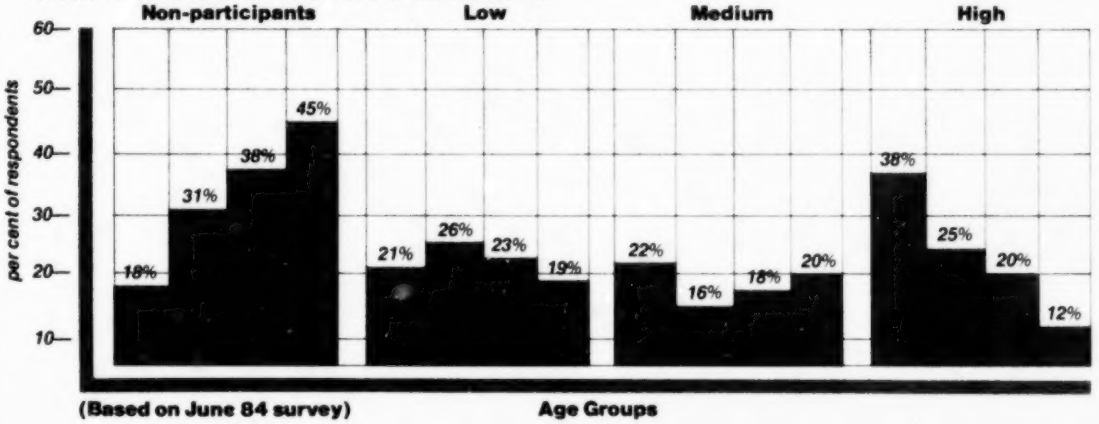
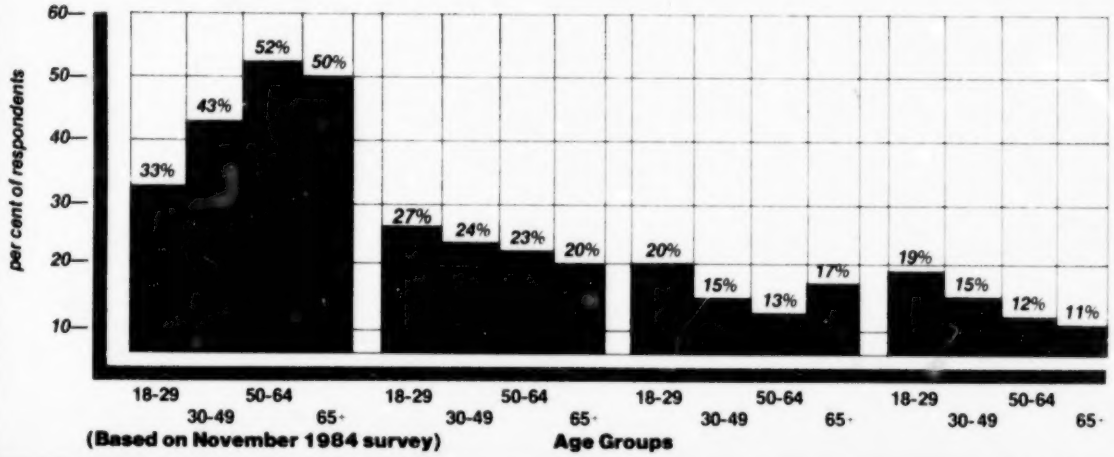


CHART 14/DEGREE OF ACTIVITY FOR EACH AGE GROUP





SOCIO-ECONOMIC CHARACTERISTICS

Who participates in physical activity? What can we say about educational background, occupation and income?

The June and November 1984 findings are similar to those of the previous nine surveys and confirm the conclusions from previous reports that:

"Those who participate in physical activity of some kind tend to be better educated, enjoy higher incomes, and are employed in professional/executive or sales/clerical positions."

Chart 15 presents the basic socio-economic breakdowns. In November 1984, 77% of those who have at least some university education have participated* in some kind of activity in the past month, while only 39% of those with a public school education have participated.

The level of education attained, appears to be the most important factor in predicting whether or not an adult participates in physical activity. As Chart 16 shows, the trends have remained fairly consistent over the past eleven survey periods.

The drop in participation in the fall (November surveys) is seen mainly in those with high school and post-secondary educations. Participation appears to decline in the fall during the period 1981-1983 for those with a public school education. For those with university educations, participation has risen in the spring and has remained constant in the fall.

It has been suggested that these findings can be explained in terms of a person's age—that is, older people tend not to have attained higher levels of education and also participate less. However an analysis of data collected in November 1983, showed that for all age categories, participation increases with increased level of education attained.

Findings

☐ More people with university educations, having higher salaries and in professional/executive or sales/clerical positions participate than do those in any other category.

☐ For all age categories, participation increases with level of education attained.

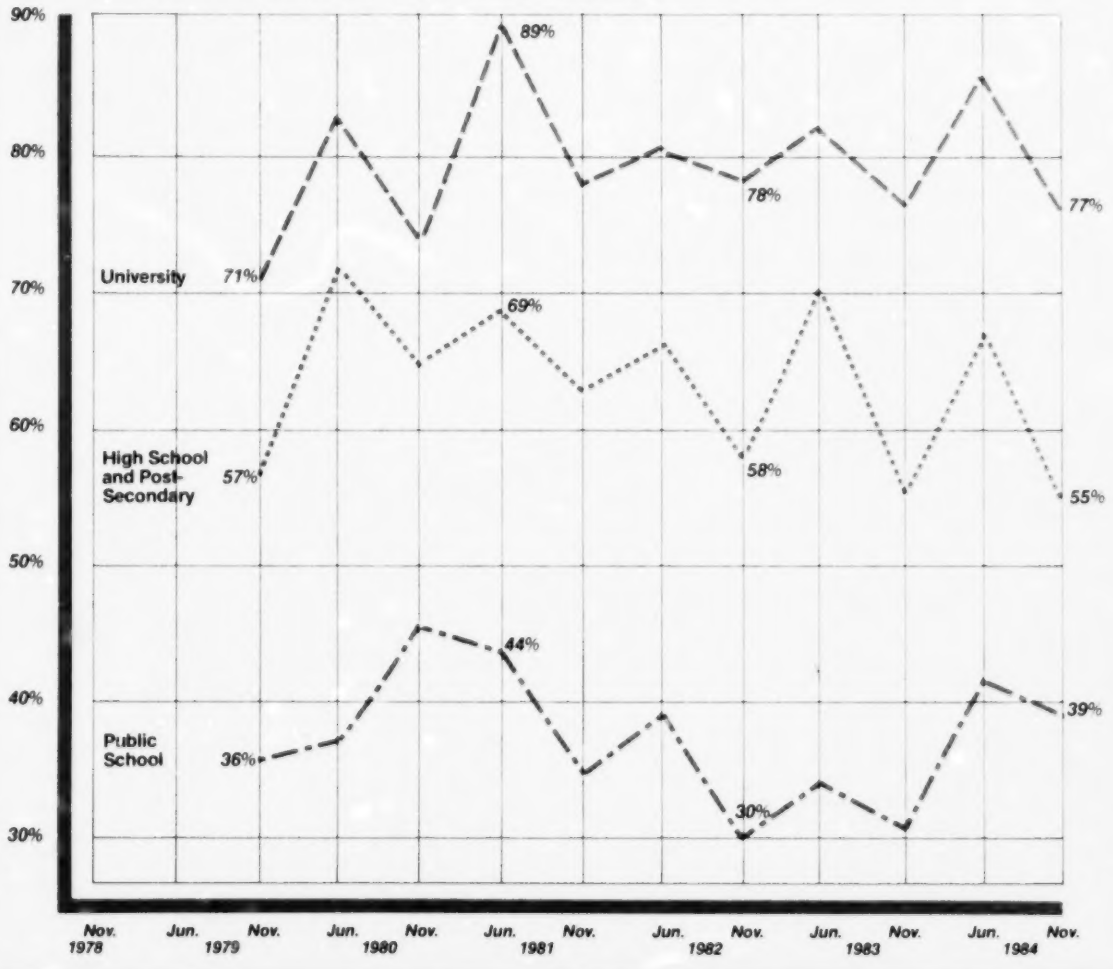
☐ The drop in participation in the fall is seen mainly in those with high school and post-secondary educations.

*Participation rates (i.e. those participating once a month or more) are presented here for consistency with previous reports. Subtract about 4% from each figure to approximate the percent Active. (i.e. those participating once a week or more).

CHART 15/PARTICIPATION BY SOCIO-ECONOMIC CHARACTERISTICS (1984)

Education	Percent Participating 1984 Jun	Nov	Occupation	Percent Participating 1984 Jun	Nov	Income	Percent Participating 1984 Jun	Nov
University	86%	77%	Professional/			$30,000 & over	81%	63%
High School &			Executive	76%	60%	$20,000-30,000	65%	47%
Post-Secondary	67%	55%	Sales/Clerical	74%	70%	$10,000-20,000	65%	48%
Public School	42%	39%	Labour	64%	50%	under $10,000	49%	49%
			Home-maker	62%	50%			

CHART 16/PERCENT PARTICIPATING FOR EACH LEVEL OF EDUCATION



8 WHERE PEOPLE PARTICIPATE

Where People Participate

(November 1982 only)

For each activity mentioned in the November 1982 survey, participants were asked **where** they usually engaged in that activity.

Chart 17 shows the general pattern of participation. For the 944 activities mentioned by the 612 participants, a little over a third of the people (35%) participated in activities "outside, using no special facility". Another 23% engaged in activities in "public, non-profit recreational facilities". A similar percentage of the population (20%) participated in "commercial facilities or private clubs". Almost one in five (18%) people participated "at home" and only 4% mentioned being physically active at work or school.

Where people participate is, to a large extent, based on whether or not a facility is needed and if so, the type of facility. Chart 18 shows the main activities for each of the locations. People who walked (89%), jogged/ran (65%), or cycled (79%), participated "outside". People who swam (51%) or played tennis/badminton (59%) used "public, non-profit facilities". Among the more frequently mentioned activities engaged in by people using "commercial facilities or private clubs" were squash/handball/bowling (88%) and dancing (47%). At home people participated in calisthenics (51%) and gardening (69%). 37% played basketball or volleyball (pre-

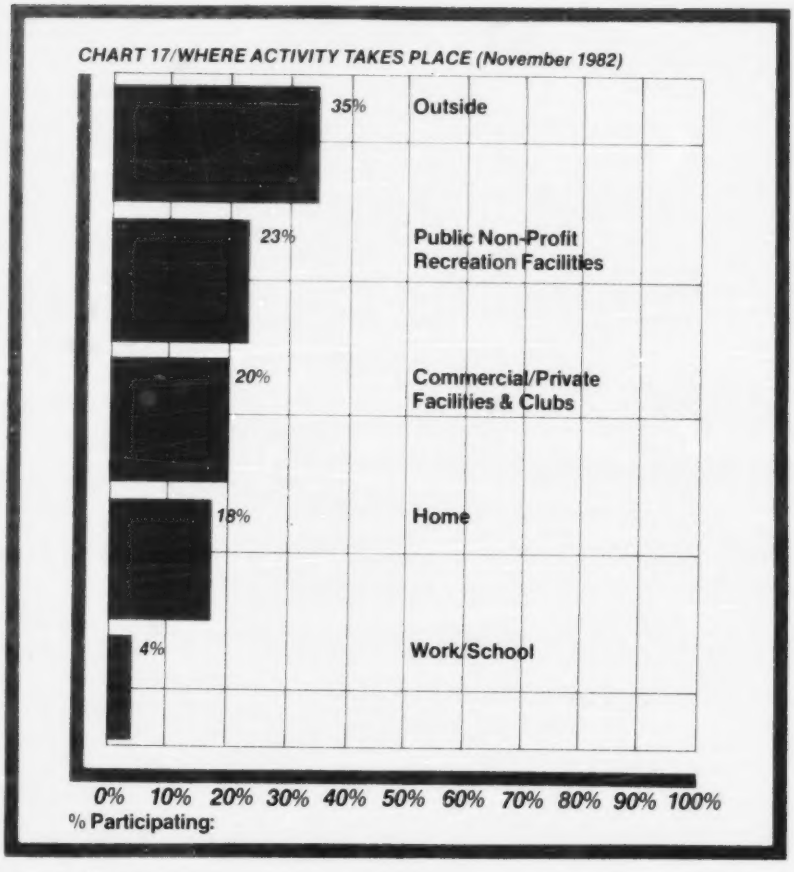


CHART 18/WHAT DO PEOPLE DO?

	% of Participants in this activity using this location		% of Participants in this activity using this location
Outside		swimming/scuba	51%
walking/jogging	89%	tennis/badminton	59%
bicycling	79%	curling	47%
jogging/running	65%	golf	41%
		squash	34%
Commercial/Private Clubs		dancing	36%
bowling	88%	calisthenics	20%
squash	46%		
dancing	47%		
golf	59%	**Home**	
curling	53%	weightlifting/wood cutter	57%
calisthenics	26%	general exercise	51%
hockey	25%	gardening	68%
swimming/scuba	24%		
		Work/School	
Public Non-Profit Recreation Facilities		basketball/volleyball	37%
		squash	9%
hockey/skating	62%		

sumably those still in school).

It is interesting to note that of those who mentioned calisthenics, 51% participated at home, 26% in commercial facilities and 20% in public, non-profit facilities.

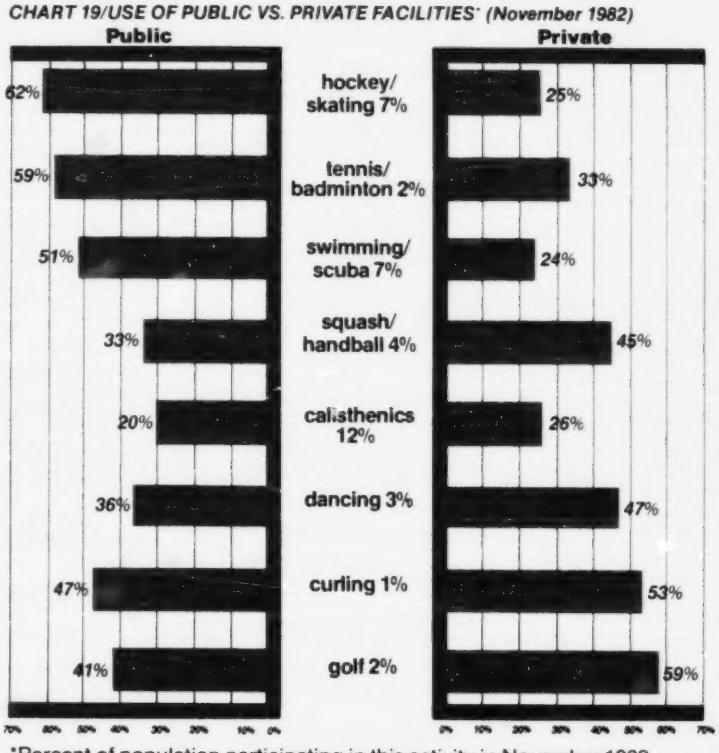
Participation in Activities Requiring Special Facilities

Of interest are activities requiring special facilities, and the comparison between the numbers of people using "public, non-profit recreational facilities" and those using "commercial facilities or private clubs." Chart 19 shows the percent of people participating in activities who use "public" versus "private" facilities, for the main activities requiring special facilities.

The majority of people participating in hockey/skating, tennis/badminton and swimming/scuba, use "public facilities". For squash/handball, dancing and golf, people tend to use private facilities. For calisthenics (an additional 50% participate at home) and curling, "public" and "private" facilities are used equally.

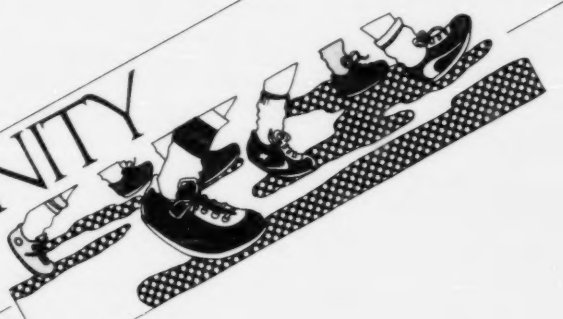
These figures must be interpreted with some degree of caution both because of when the data was collected (November is a transitional period) and because of the relatively small number of participants in each activity.

CHART 19/USE OF PUBLIC VS. PRIVATE FACILITIES* (November 1982)



*Percent of population participating in this activity in November 1982.

REGIONAL AND COMMUNITY SIZE DIFFERENCES



Region

No significant differences have been found in participation between one region of Ontario and any other. This indicates that interest and participation in physical activity are wide-spread across the province.

It is likely, however, that participation in some individual communities is higher or lower than the provincial average. The sample size of the survey did not make it possible to examine participation in specific communities.

Community Size

Chart 20 shows the percent **active** at least once a week for each of three community sizes—large urban centres (with populations over 100,000), small cities (between 10,000 & 100,000 people) and for rural areas with populations under 10,000, for the last five years.

Frequency of activity of adults in large urban areas is consistently high. A smaller percentage of the population in rural areas is active compared to those living in large or small cities. This trend for the rural population has at least remained relatively constant over the last few survey periods, if not shown a slight decline.

People living in small cities show a somewhat mixed participation pattern. From November 1978 to November 1981, their pattern was similar to that of adults living in large cities. However, in November 1982 and 1983, the numbers active in the fall periods increased dramatically while the number active in the spring has remained similar to those living in large urban areas.

Chart 21 shows the seasonal patterns for this same data. More adults are active in the spring than in the fall. In the spring, the number of adults active in small cities is about the same as the number active in large cities—both show a generally increasing trend. In rural areas, there has been a general increase in numbers active in the spring, while the number active in the fall has remained constant. In the fall, however, while the number active in large cities shows an initial increase followed by a levelling off, the number of people active in small cities shows a recent decline of almost 20% followed by a return to the pre 1982 levels. These high fluctuations are probably due to the relatively small sample sizes.

Findings

☐ Many more adults in large urban centres are active than are those in rual areas

☐ The low levels seen in rural areas appear to be due to low participation in the fall. The percentage of adults in rural areas who are active is increasing in the spring.

While the surveys do not explain the reasons for this finding, fitness practitioners in rural areas should consider making available more opportunities for exercise, taking into account the needs and interests of the residents.

CHART 20/PERCENT ACTIVE (at least once a week) FOR EACH COMMUNITY SIZE

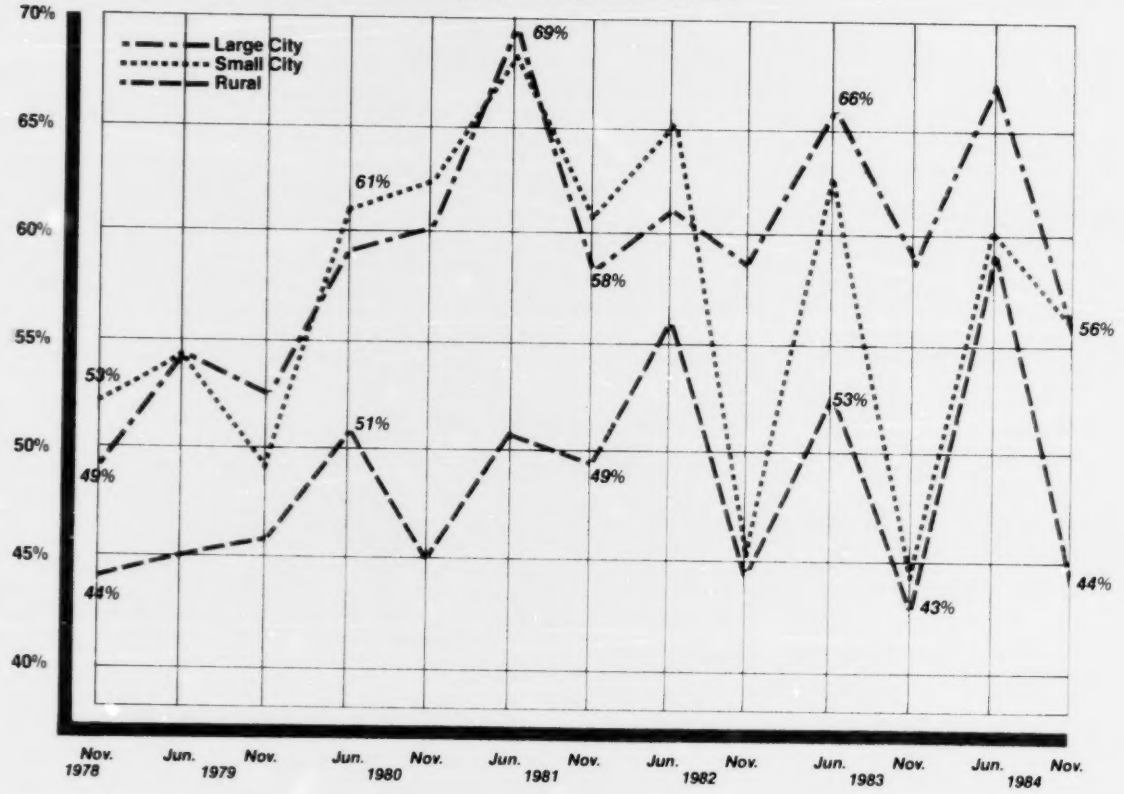
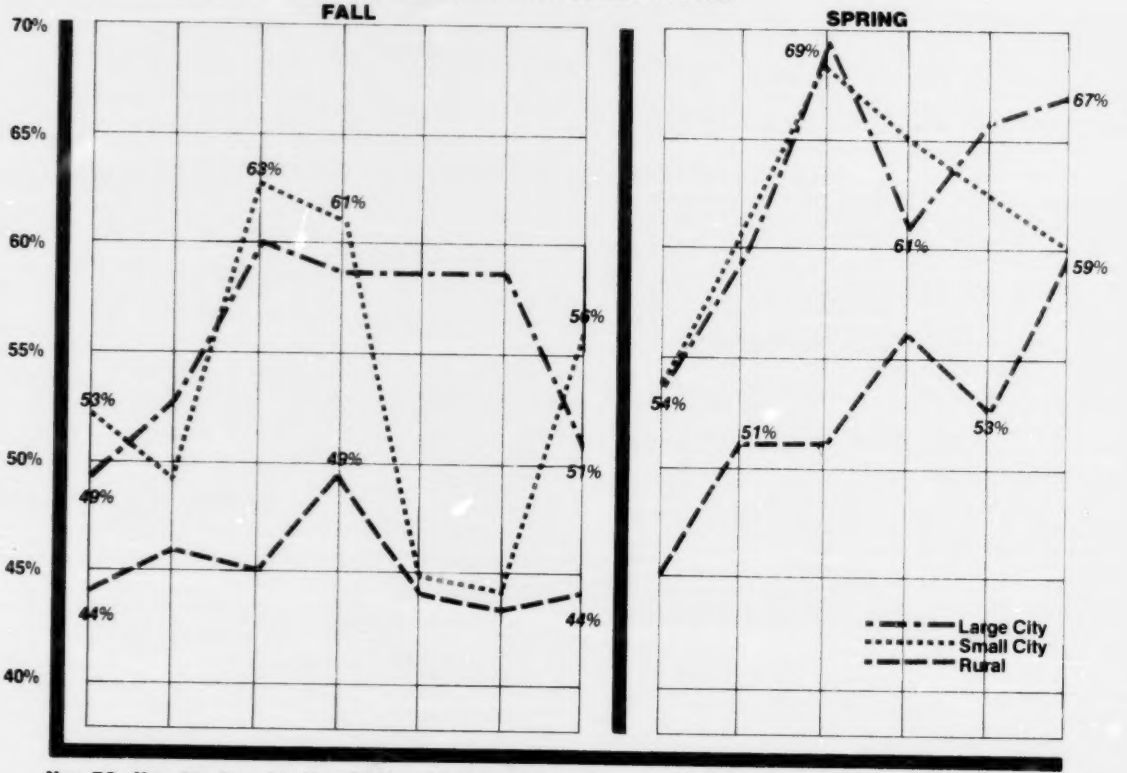


CHART 21/PERCENT ACTIVE (at least once a week) FOR EACH COMMUNITY SIZE



IMPLICATIONS

Interest and participation in fitness boomed in the late 1960s and early 1970s. In the late 1970s, as we have seen by monitoring the physical activity patterns of Ontario's adults, participation increased, but much less dramatically. Over the last three years (1982-1985), the interest has remained high but the increases observed up until 1981 have not continued.

The challenge for fitness professionals in the latter half of the 1980's is to continue to help more people become active on a regular basis and to encourage those who are moderately active to become active to a greater degree. Chart 22 summarizes this challenge.

While many are active once or twice a week, fitness professionals should continue to encourage all adults to become active for at least 30 minutes three times a week.

Encouraging those who are active in the summer to continue their participation through the fall and into the winter, is of high priority. This may involve encouraging active adults to try other activities so they can remain active year round.

The easy job is done. the motivated adults are now regularly active. The harder job is to reach those remaining people who are not as yet active for at least 30 minutes three times a week.

CHART 22

THE TARGET — Every capable adult in Ontario is physically active for at least 30 minutes, three times a week.

THE CHALLENGE	TARGET GROUP
☐ encourage more people to become active	Non-participants Casuals
☐ encourage those active once or twice a week to become active three or more times a week.	Low Actives Older Adults
☐ encourage people active in the summer to continue to be active year-round.	Summer only Participants
☐ encourage people to adopt activities requiring a higher expenditure of energy.	Women Older Adults

APPENDIX I

Sample Characteristics November 1984 Survey

	TOTAL	%
Ontario Total	1048	100
REGION		
Tororto	361	34
Metro Outskirts	118	11
Eastern Ontario	190	18
Western Ontario	292	28
Northern Ontario	87	8
AGE		
18 - 29 years	309	29
30 - 49 years	377	36
50 - 64 years	223	21
65 years and over	135	13
Did not state	4	*

SEX	TOTAL	%
Male	508	48
Female	540	52
OCCUPATION OF RESPONDENT		
Professional/Executive	201	19
Sales/Clerical	137	13
Labourer	253	24
Housewife	212	20
Other	230	22
Did not state	15	1
COMMUNITY SIZE		
100,000 and over	644	61
10,000 - 100,000	136	13
Under 10,000	268	26
EDUCATION		
Public school or less	137	13
High school and Post-secondary	725	69
University	183	17
Did not state	3	*

FAMILY INCOME	TOTAL	%
Under $10,000	80	8
$10,000 - $19,999	194	19
$20,000 - $29,999	213	20
$30,000 and up	387	37
Did not state	174	17

NOTES

1. Exact numbers and percentages for the other surveys discussed in this report are slightly different from those given above, due to variations in sampling.

2. Percentages may not add to 100% because of rounding.

*Less than 0.5 percentage points.

QUESTIONNAIRE

Ask Everyone

1 a What type of physical activity, physical exercise or physical recreation have you engaged in, if at all, within the last month? ( ) – *Did not engage, go to Q 2*

1st Mention: _____

Probe: Any Others?

2nd Mention: _____

Probe: Any Others?

3rd Mention: _____

b For each activity mentioned, ask:
How many times in the last month did you engage in this activity? *(Record Below)*

c What was the average length of time involved each time you did this activity? *(Record Below)*

d Please look at this card and tell me at what intensity you usually engage in this activity.

	Type Of Activity (a)	**No. of Times (b)**	**Average Time (c)**	**Intensity (d)**
1st Mention				high . . . 1 medium . . 2 low 3
2nd Mention				high . . . 1 medium . . 2 low 3
3rd Mention				high . . . 1 medium . . 2 low 3

2 Do you think you get sufficient physical activity or do you feel that you should be more active?
Get sufficient activity 1
Should get more physical activity 2
Don't know 3

Ask questions 3 & 4 only of those who did not engage or who are not active four or more times per month (total for all mentions in Q 1b)

APPENDIX II

Physical Activity Index

In order to estimate the energy expenditure of participants in all the activities they have participated in, a physical activity index was constructed. This index takes into account the type of activity, intensity of participation, and frequency and duration of participation.

Energy expenditure has been measured in terms of Mets. This is a value of the metabolic energy cost expressed as a multiple of the resting metabolic rate (for example, an activity at 4 Mets, such as walking at medium intensity, requires four times as much energy as when at rest).

Chart 23 indicates the Mets values assigned to reported activities, at various levels of intensity. These values are based upon those used for the Canada Health Survey and/or indicated by Skinner (1975).

The physical activity index is calculated according to the following formula:

for each activity:

total times active per month	Mets value for activity Chart 23	average time per session in minutes

This value was summed over all activities a person engaged in during the month, resulting in the total score in Mets.

Individuals were classified as low actives (less than 3000 Mets per month), medium actives (3000-6499 Mets per month), or high actives (6500 or more Mets per month). Examples of activities or combinations of activities at different levels for each of these categories are provided in Chart 24.

This physical activity index described above is similar to that used in the Canada Health Survey (that study did not use different intensity ratings for activities) and in other similar studies. The index assigns values based upon individuals' subjective estimates of the intensity of their activity, rather than upon actual measurement. Thus, scores discussed should not be treated as an exact figure, or as applying to the activity of any particular individual.

The index, as used in this report, is valid in providing a general indication of degree of activity of Ontario adults. It is particularly useful in indicating differences in degree of activity between various groups of people (e.g., men vs. women) and from one survey time to another.

CHART 23 — ESTIMATED METABOLIC COSTS (METS) OF ACTIVITIES

		Mets Lo	Mets Med	Mets Hi
1	Walking	2	4	7
2	Jogging/Running	7	10	13
3	Swimming/Scuba	3	6	10
4	Hockey/Skating	6	8	12
5	Bicycling	3	6	9
6	Tennis/Badminton/Table Tennis	4	6	8
7	Basketball/Volleyball	4	8	12
8	Bowling/Lawn	2	3	4
9	Calisthenics (individual and group exercise)	7	9	12
10	Squash/Racquetball/Handball	8	10	12
11	Dancing	4	5	6
12	Weightlifting	4	6	8
13	Yoga	2	4	6
14	Rugby/Football	6	8	12
15	Soccer	8	10	12
16	Golf	2	3	4
17	Curling	3	4	5
18	Baseball	3	4	5
19	Gardening	2	4	6
20	Boating/Fishing	2	3	4
21	Horseback Riding	3	4	6
22	Other (Average)	4	6	8

CHART 24 EXAMPLES OF DEGREE OF ACTIVITY

Low (less than 3000 Mets per month)

1 *walking* at medium intensity three times a week, 45 minutes each time (2340 Mets)

or

2 *bicycling* at medium intensity twice a week, 30 minutes each time (1560 Mets)

plus

walking at medium intensity three times per week, 30 minutes each time (780 Mets—total for both activities: 2340 Mets)

or

3 *baseball* once a week, 120 minutes each time (2080 Mets)

Medium (3000-6499 Mets per month)

1 *walking* at high intensity three times a week 40 minutes each time (3640 Mets)

or

2 *jogging* at medium intensity (at about 8-10 km/hour) four times a week, 30 minutes each time (5195 Mets)

or

3 *swimming* at medium intensity three times a week, 45 minutes each time (3510 Mets)

plus

calisthenics at medium intensity five times a week, 15 minutes each time (2925 Mets—total for both activities: 6435 Mets)

High (6500 Mets or more per month)

1 *swimming* at high intensity four times a week, 30 minutes each time (5200 Mets)

plus

calisthenics at medium intensity four times a week, 15 minutes each time (2340 Mets—total for both activities: 7540 Mets)

or

2 *jogging* at medium intensity four times a week, 40 minutes each time (6930 Mets)

or

3 *walking* at medium intensity three times a week, 30 minutes each time (1560 Mets)

plus

bicycling at medium intensity twice a week, 30 minutes each time (1560 Mets)

plus

squash at medium intensity twice a week, 45 minutes each time (3900 Mets—total for all three activities: 7020 Mets).

APPENDIX III

Ministry Reports

The following research reports from Sport and Fitness Ontario, Ministry of Tourism and Recreation, also may be of interest to those planning or providing fitness programs.

Those Who Know But Don't Do

This report discusses characteristics of individuals who are interested in physical activity but are either inactive or only active at a low level. Strategies are suggested for encouraging these people to begin and/or to continue and increase their physical activity.

Blue Collar Workers and Physical Activity

This report provides a socio-demographic profile of blue collar workers in Ontario and their participation and orientation regarding physical activity.

Serving Disadvantaged Women

A guide for the community fitness programmer.

Work Site Labour Fitness

A guide for employee fitness programmers.

References

The following are other surveys and research studies which may be of interest.

Perrin, Burt, "Survey of Physical Activity in the Regional Municipality of Waterloo." **Recreation Research Review,** Volume 6, No. 4. Feb., 1979, pp. 48-52.

The Perrier Study: **Fitness in America.** Perrier—Great Waters of France, Inc. New York: Jan., 1979.

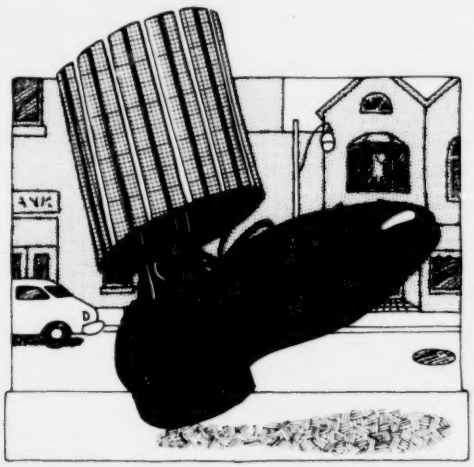
1976 Survey of Fitness, Physical Recreation and Sport. Culture Statistics: Recreational Activities. Statistics Canada: Cat. 87-501 Occasional, Nov., 1978.

Skinner, James S. "Physiological Implications of Physical Activity". In **Employee Fitness in Canada.** Ottawa: Health and Welfare Canada, 1975.

The Health of Canadians: Report of the Canada Health Survey. Statistics Canada: Cat. 82-538E, June, 1981.

Canada's Fitness, Ottawa: Canada Fitness Survey, Fitness Canada, June, 1982.

Physical Activity Patterns in Ontario II, Toronto, Ministry of Tourism and Recreation, Jan. 1983 (superseded by the current report).



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